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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,556	06/23/2003	Timothy S. Milliron	021751-001610US	1250

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EXAMINER

CHUNG, DANIEL J

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/602,556	Applicant(s) MILLIRON, TIMOTHY S.	
	Examiner Daniel J Chung	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11-12-2003, 12-09-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11-6-2003, 4-2-2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

Receipt is acknowledged of Applicant's Information Disclosure Statement of 11-6-2003 and 4-2-2004, which has been placed in the application file and considered by the Examiner.

Drawings

The drawings are not objected to by the Examiner.

Specification

Please review the application and correct all informalities. (i.e. in claim 21 line 3, "...receiving information specifuying..." should apparently read "...receiving information specifying...". Appropriate correction is required. Applicant is respectfully requested to carefully review all claims and specification for any other informalities that require correction.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fowler (5,892,691) in view of Shum et al (6,271,847).

Regarding claim 21, Fowler discloses that the claimed feature of a computer implemented method of generating a graphical warp through transformation of an undeformed model to a deformed model, the method comprising: receiving [210,212] information specifying the undeformed model; receiving [210,212] a set of feature specifications, each feature specification comprising a source feature and a target feature (See Fig 2, col 1 line 15-40, col 5 line 55-col 6 line 6, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23); receiving a set of transformations ["deformation function", "warping function"] for mapping the source feature to the target feature in each feature specification in the set of feature specifications (See Fig 2, col 1 line 15-40, col 5 line 55-col 6 line 6, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23); receiving [214] a set of strength fields defined over the undeformed model for scaling the magnitude ["scaling factor"] of transformations in the set of transformations to generate a set of scaled transformations (See Fig 2, col 1 line 41-54, col 6 line 14-21, col 8 line 21-27, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23); receiving [214] a set of weighting ["deformation weight"] fields defined over the undeformed model for determining the relative influence of the set of scaled transformations ["deformation function"] (See Fig 2, col 1 line 41-54, col 6 line 14-21, col 8 line 21-27, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23); and generating the deformed model by applying

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the set of transformations ["deformation function", "warping function"], the set of strength fields, and the set of weighting fields to the undeformed model. (See Fig 2, col 10 line 57-col 11 line 2, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23)

Fowler does not specifically disclose "a set of transformations". However, such limitation is shown in the teaching of Shum et al. ["the transforms are used to warp the associated regions to prescribed coordinates to create a warped image"; See Abstract line 3-10, col 3 line 2-10, col 11 line 20-34) It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to combine the teaching of Fowler and Shum et al, because they both relate to method for generating deformed or warped images, and the teachings/suggestions in Fowler of using "warping function" (See Fig 4; 430), provide the motivation to employ "the transforms" for creating a warped image of Shum et al, in order to produce proper warped version of image with easier/faster calculation.

Regarding claims 22-23, Fowler discloses that the set of feature specifications comprises a first feature specification comprising a source feature identifying a source position of a continuous/discrete feature and a target feature identifying a target position of the continuous/discrete feature. (See Fig 2, col 1 line 41-54, col 3 line 48-65, col 6 line 14-21, col 8 line 21-27, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23)

Regarding claims 24-25, Fowler discloses that the set of feature specifications comprises a first feature specification comprising a source feature identifying a source position of a feature point/coordinate frame and a target feature identifying a target position of the feature point/coordinate frame. (See Fig 2, col 1 line 41-54, col 3 line 48-65, col 6 line 14-21, col 8 line 21-27, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23)

Regarding claims 26-27, Fowler discloses that the set of feature specifications comprises a first feature specification comprising a source feature identifying a source curve/surface and a target feature identifying a target curve/surface. (See Fig 5)

Regarding claim 28, Fowler discloses that the set of feature specifications comprises a first feature specification comprising a source continuous feature and a target continuous feature, and a second feature specification comprising a source discrete feature and a target discrete feature. (See Fig 2, col 1 line 41-54, col 3 line 48-65, col 6 line 14-21, col 8 line 21-27, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23)

Regarding claim 29, Fowler discloses that computing a sum of the set of scaled transformations weighted by the set of weighting fields, for deforming the undeformed model to generate the deformed model. (See Fig 2, col 10 line 57- col 11 line 2, col 3 line 1-13, col 3 line 21-45, col 4 line 14-23)

Regarding claim 30, Fowler discloses that the claimed feature of a computer implemented method of generating a graphical warp, the method comprising; receiving information specifying an undeformed model; receiving a parameter set specifying a warp; determining, based upon the parameter set, a set of transformations, a set of strength fields, and a set of weighting fields; and determining a deformation function based upon the set of transformations, the set of strength fields, and the set of weighting fields; and applying the deformation function to the undeformed model to generate a deformed model.

Regarding claims 30 and 39-40, claims 30 and 39-40 are similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claims 30 and 39-40.

Regarding claim 31, Fowler fails to teach that "a sampling function for discretizing transformation, a sampled strength field, a sampled weighting field." However, using of sampling is well-known in an analogous art, which is a technique of selecting a single point in each region to represent the region. Therefore, it would have been obvious to one skilled in the art to include a sampling function into the teaching Fowler, in order to utilize faster calculations by eliminating repetitious calculations on same data in same regions, as Fowler's system is also desired.

Regarding claims 32-33 and 37-38, claims 32-33 and 37-38 are similar in scope to the claims 30-31, and thus the rejections to claims 30-31 hereinabove are also applicable to claims 32-33 and 37-38.

Regarding claims 34-36, claims 34-36 are similar in scope to the claims 21-23, and thus the rejections to claims 21-23 hereinabove are also applicable to claims 34-36.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 21-40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,608,631. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of patent No. 6,608,631 contains substantially every element of claims 21-40 of the instant

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application and the claimed feature of presented invention is just broadly claimed by applicant.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (Central fax)

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121

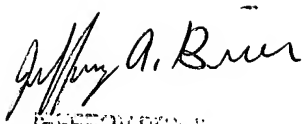
Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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djc
August 7, 2004


JEFFERY BRIER
PRIMARY EXAMINER